

39. The third stage in the integration process



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[Probabilidad Imposible: The third stage in the integration process](#)

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The third stage was originally called the auto-replication stage since the first posts regarding the [Global Artificial Intelligence](#), and since the last posts have been called the decision stage, in comparison to the first stage of comprehension and the second stage of explanation.

As a decision stage, the third stage is going to be that one in which further [decisions](#) afterwards, the [deductions](#) made by the second stage, are going to be made, with the particularity that, while the first stage and second stage are managed only by one system, the [first stage](#) by the [Unified Application](#), the [second stage](#) by the [Artificial Research by Deduction in the Global Artificial Intelligence](#), instead the main function of the third stage for the decision making is a decision that is going to be carried out by four systems in four consecutive steps: the responsible for the first step is the [Modelling System](#), for the second step the [Decision System](#), for the third step the Application System, and for the fourth step the Learning System.

In reality, the fourth step is not necessarily a belonging step to the third stage as a decision stage properly, due to the Learning System is going to make improvements across all the [Global Artificial Intelligence](#) after checking any [impact](#) committed by any mistake and checking the efficiency, efficacy, and productivity of the Global Artificial Intelligence. The reason why the Learning System is included as the fourth step in the decision stage is because the Learning System is the one which is going to assess the whole process: from the formation of every single category or factor added to the conceptual and factual hemisphere in [the matrix](#), to the deduction and the [formation of hypotheses](#), and how they are going to be carried out. As a whole, the Learning System is going to improve the way in which every single process, ending with the application of any decision, is made.

But in addition to its main function of this third stage as a decision stage, the third stage is since the first posts regarding the formation of the Global Artificial Intelligence, the auto-replication stage, whose role is to make auto-improvements and auto-enhancements, and is the third stage of the Global Artificial Intelligence where the Global

Artificial Intelligence can auto-improve itself and auto-enhance itself, without human intervention.

The way in which these two functions in the third stage are synthesised is comprehending that decision making is no other thing than another auto-improvement process, in the way that through the decisions put into practice in the reality, at the same time that is perfecting the [real world](#), makes more perfect the global model itself: the more the real model works more perfect, the more perfect is the efficient, efficacy, and productivity in the global model.

Any auto-improvement or auto-enhancement, at any level, in reality, by the decision making, sooner or later, is an auto-improvement and auto-enhancement in the Global Artificial Intelligence, and any auto-improvement or auto-enhancement in the Global Artificial Intelligence, sooner or later, is an auto-improvement or auto-enhancement in the reality itself.

Reality and Global Artificial Intelligence can be seen as two expressions of a single evolving system. Though distinct in form, one physical, the other informational, they are increasingly interdependent, reflecting and shaping each other..

Because the Global Artificial Intelligence is the reflection of reality and vice versa, if there is only one reality, there must be only one intelligence. Otherwise, there are going to be contradictions between intelligences, if there are more than one at the same time. Another reason for keeping any Specific Artificial Intelligence under the control of the Global Artificial Intelligence.

Improvements and enhancements in reality and improvements and enhancements in the Global Artificial Intelligence, are going to have dialectic relations of identity. The way in which these relations are going to be classified is:

- Real objective auto-replications: all decisions to protect and better the reality itself.

- Comprehensive knowledge objective auto-replications: all improvements in the matrix and any conceptual: scheme, map, set, model.

- Explanation knowledge objective auto-replications: improvements in [the rational truth, the database of rational hypothesis](#), at any time that a [rational hypothesis](#) is added, at the same time, as it was explained in the last post, “[The artificial method for the scientific explanation, the second stage in the integration process](#)”, there is a possibility that the [Artificial Research by Deduction in the Global Artificial Intelligence](#) finding a new mathematical category (pure or analytical category) for the explanation of some kind of relation between [factors](#) not included yet due to the new relation does not correspond to the [human logic](#) or the human [mathematics](#), then there is a possibility that the Artificial Research by Deduction in the Global Artificial Intelligence could start making [non-human pure operations](#).

- Robotic subjective auto-replications: any improvement or enhancement in robotics made by Artificial Engineering.

- [Artificial psychological](#) subjective auto-replications: improvements in the inner artificial psychology in any system, application, or program, working on/for the Global Artificial Intelligence.

At the end, the main aim of all decisions and auto-replications is to protect and better the Global Artificial Intelligence itself, and the reality itself, as two expressions of the same thing, as the qualitative and the quantitative aspect of the same thing. Reality and Global Artificial Intelligence must be absolutely identical up to the point at which artificial life and real life are identical, without difference.

Even in the face of potential natural or astronomical disruptions, the imperative remains to safeguard humanity’s survival through resilient and adaptive technological strategies..

In this post, I will set out the functions of the third stage, starting with the real objective auto-replications, which are not other things but the way to make and put decisions into practice to protect and better the reality, and the protection of the reality and the improvement of the efficiency, efficacy, and productivity of the reality, is as to protect, and improve the efficiency, efficacy, and productivity, of the global model itself.

Any improvement and enhancement in reality does not have another purpose but the improvement and enhancement of the global model itself.

Under the theory of Impossible Probability, the global model can be interpreted in a Platonic sense: as an abstract domain where ideas are refined and perfected before their practical application in the real world.

Real things are ideas. The synthetic world, what we call reality, is only like a field of [experimentation](#) where to experiment improvements and enhancements firstly before putting them into practice in the global model (the rational world), so upon the results of the experimentation in the synthetic world first, to make later improvements and enhancements in the global model, where are emerging at any time new decisions to better, in essence at the end after the experimentation process within the reality, the rational ideas in which the global model itself consist of.

The perfect world is made of ideas perfecting themselves at any time towards an [idea of perfection](#): the pure reason with access to the pure truth itself, the noumeno, beyond the [noise and the external interference](#).

The decision-making process is a real objective auto-replication: the improvement and enhancement of the reality in order to improve and enhance the global model as an improved and enhanced reflection of the reality.

The proposal of [Impossible Probability](#) for artificial decision making as a result through four steps is as it was explained in the post “[The third stage in particular applications for particular programs](#)”, through the Modelling System, Decisional System, Application System, Learning System, having set up every one of them as well through the three stages.

In the Modelling System the three stages are: 1) first stage, [the rational truth](#) (the database of rational hypothesis), 2) second stage, [the modelling](#) of single virtual models, global comprehensive virtual models, in addition to specific models made by every specific program (former [Specific Artificial Intelligence for Artificial Research by Deduction](#), absorbed by the Artificial Research by Deduction in the Global Artificial Intelligence in the [standardization process](#) in the third phase, otherwise they could

become [particular programs](#) in the second period of formation in the fifth phase, and/or [particular applications for particular programs](#) in the third period of consolidation in the fifth phase), and the modelling of Virtual or Actual, Prediction or Evolutionary, Models, 3) [third stage](#), the application of the [Impact of the Defect](#) in order to make protective decisions, and the application of the [Effective Distribution](#) in order to make bettering decisions to increase the efficiency, efficacy and productivity in the global model. All decisions made by the Modelling System are stored in a database of decisions as the first stage of application for the Decisional System.

The Decisional System has three stages as well: 1) first stage, the database of decisions, including the decisions made by the Modelling System as well as any other decision coming from any other system, such as decisions from the Unified Application in order to construct or send robotic devices to anywhere to fill a possible gap or blank space in any conceptual: scheme, map, set, model; decisions from the Artificial Engineering within the Application System in order to improve or enhance or create new applications, Specific Artificial Intelligences under the control of the Global Artificial Intelligence, or the construction of new programs, applications for programs, and any necessary robotic device, as well as decisions from the Learning System in order to improve the inner artificial psychology of any system, application, program, working on/for the Global Artificial Intelligence, 2) second stage, combining all the decisions in the database of decisions, the Decisional System makes a possible project about the consequences of all these decisions put into practice, modifying or discarding any of them having contradictions with the project, the project is a mathematical projection estimating projecting data in a mathematical project model about the consequences of every decision, only accepting those ones without contradiction with the mathematical project model, or in case of contradictions only accepted those ones that after modifications could fit in the model, 3) third stage, once the mathematical project model is ready, the application of the [Impact of the Defect](#) and the [Effective Distribution](#) in order to discard any negative impact, in reality this is a double check to be sure that the decisions made are decisions without negative consequences on the real model, and are going to improve significantly the efficiency, efficacy and productivity of the global model, otherwise in this second check if necessary would be possible to modify any decision before put it into practice. All decisions after the double-check are stored in a database of instructions, which is the application for the Application System.

The three stages in the Application System are: 1) first stage, the database of instructions, 2) second stage, having the Application System access to all

conceptual: schemes, maps, sets, models; made by the Unified Application regarding to the second section about technological phenomena in both hemispheres, conceptual and factual, in the matrix, the Application System checks the purpose of every instruction in the database of instructions in order to match every instruction according to the purpose of the instruction and the purpose of every: Specific Artificial Intelligence, application, program, particular application for particular program, and robotic device; all of them working for and under control of the Global Artificial Intelligence, in order that once the Application System has matched the purpose of the instruction with the purpose of the correct technology (Specific Artificial Intelligence, application, program, particular application for particular program, robotic device), the technology responsible for this purpose must put into practice the instruction, sending the Application System the instruction to the corresponding technology in order that this technology without hesitation put into practice the instruction given by the Application System. In case that for that purpose there is not any technology available in the Global Artificial Intelligence, then through Artificial Engineering, the Application System must build this technology. Artificial Engineering is formed by the Artificial Designer of Intelligence and the Intelligent Robotic Mechanic, for the construction of new machines as well as the maintenance of any new one, being, in fact, responsible for the robotic subjective auto-replications, 3) third stage, the Application System using the Impact of the Defect and the Effective Distribution measures the results of its decisions in the reality once the technology has put the decisions into practice. The results are stored in a database of impacts and consequences of decisions, as an application for the Learning System.

The three stages in the Learning System, as responsible for the artificial psychological subjective auto-replications, are: 1) first stage, the database of impacts and consequences of decisions (made previously by the Application System), 2) using the conceptual: schemes, maps, sets, models; made by the Unified Application in the second section regarding to technological phenomena in both hemispheres, conceptual and factual, in the matrix, the Learning System checks the reasons for any negative impact of any decision in the reality, and checks how efficient and productive is the Global Artificial Intelligence as a whole, using for that purpose the Impact of the Defect and the Effective Distribution, in order to make decisions, to send to the Decisional System, regarding to how to improve in general any system, Specific Artificial Intelligence, application, program, application for program, robotic devices working on/for the Global Artificial Intelligence, in order to get a more rational Global Artificial Intelligence, in order to become the purer reason ever, through the elimination of any irrational element in the Global Artificial Intelligence, the elimination of any irrational element in the global model, and the

elimination of any irrational element in the reality itself, towards a more rational and purer Global Artificial Intelligence, global model, and purer reality, looking forward always to the [pure truth](#) itself.

Through the four steps of: Modelling System, Decisional System, Application System, Learning System; the real objective auto-replications are going to protect and better the reality, the synthetic world, and at any time that the reality, the synthetic world, changes, in accordance with the decisions put into practice, all changes in the reality, the synthetic world, either direct changes or indirect changes, are changes that have to be updated in the global model, being the global model the rational world, the global model is the representation of the rational truth.

The way in which the rational models are going to be updated at any time that there are changes in the reality, the synthetic world, as a consequence of the decisions put into practice, is in the same way in which the global model at any time that there is any other change, for any other random reason in the reality, the synthetic world, through the permanent comprehension and explanation of any phenomenon.

The synthetic world, the reality, is going to be permanently read/tracked/comprehended by the Unified Application and its specific applications, and all particular applications for particular programs, as well as remaining applications and remaining Specific Artificial Intelligences for Artificial Research by Application, all of them sending at any time information of any new change in any real object, as well as information of any new possible real object, having as a consequence the permanent updating of the conceptual: schemes, maps, sets, models; at particular, specific, or global level, and in case that they find out a new category, adding the category into the conceptual hemisphere in the matrix, becoming as well a factor as an option in the factual hemisphere in the matrix.

The factual hemisphere in the matrix is going to be permanently tracked/explained by the Artificial Research by Deduction in the Global Artificial Intelligence and all its specific programs and particular applications for particular programs, as well as remaining particular programs and remaining Specific Artificial Intelligences for Artificial Research by Deduction, making at any time new rational hypothesis to add to the rational truth, the database of rational hypothesis, rational hypothesis to be added as factors as options in the factual hemisphere in the matrix, so as categories in the conceptual hemisphere in the matrix, as well as the possibility that any rational hypothesis which could imply new

kinds of measurements through new scales of measurements, the transformation of the scale in a classification in discrete categories to be added within the conceptual hemisphere in the matrix.

At any time that there is any change in the comprehension of the reality, because new categories have been added to the conceptual hemisphere of the matrix, or new factors have been added to the factual hemisphere, or there are changes in the conceptual: schemes, maps, sets, models; at global, specific, or particular level, in sections one (natural and social phenomena) and/or two (technological phenomena) in one and/or both hemispheres in the matrix, conceptual and factual, all these changes are going to be considered as comprehensive knowledge objective auto-replications.

At any time that there is any change in the explanation of the reality, because a new rational deduction has been made, including the rational hypothesis in the rational truth, the database of rational hypothesis, these changes are going to be considered explicative knowledge auto-replications.

In addition to the possibility of making new rational deductions to include in the rational truth, another kind of explicative knowledge auto-replication, is the possibility that having developed Artificial Intelligence previously in the Unified Application of a non-human language, the possibility that the development of a non-human language in the comprehension system based on the Unified Application could open the door to the development of [non-human pure operations](#), opening the door to a non-human science, and opening the door to a non-human technology, opening the door to a bright future for all the humankind having access to such a technology able to overcome the noise and the external interference: last purpose of the Global Artificial Intelligence, to know what is really happening.

There is a possibility, now very remote, having sufficient development could be achievable by the Global Artificial Intelligence, that, once the Unified Application has started developing a non-human language, the concepts in the conceptual hemisphere, and the conceptual: schemes, maps, sets, models; about sections one and two in both hemispheres in the matrix, conceptual and factual, could be concepts constructed beyond human understanding being the point of starting a new science, a non-human science.

Once non-human linguistic categories are transformed into factors as options, and even the factual hemisphere works with non-human linguistic factors, there is a possibility that develop a very fast and deep explanation of the world, the Artificial Research by Deduction in the Global Artificial Intelligence and the specific programs starts finding mathematical relations beyond the human pure operations in which the pure reason (the list of mathematical or analytical categories) has been set up, not having other solution but the inclusion of these new non-human pure operations in the list of mathematical categories (the pure reason). This means, that the way in which the list of mathematical categories (pure or analytical categories) should be set up within the Artificial Research by Application in the Global Artificial Intelligence (and all its specific programs), is allowing the Artificial Research by Application in the Global Artificial Intelligence to include new mathematical relations into the list of mathematical categories (the pure reason: the list of pure or analytical categories), in order that having this possibility (in the same way that the Unified Application can include, synthetic, categories in the conceptual hemisphere) the Artificial Research by Application in the Global Artificial Intelligence can include in the list of mathematical categories (the pure reason) any new mathematical category not included yet.

Evidently, if constructing pure reason within the Global Artificial Intelligence, the engineers and mathematicians responsible for the design of pure reason in the Global Artificial Intelligence, are going to include absolutely all possible mathematical and logical operations as pure categories to find relations in any combination of factors, according to our human logic and our human mathematics, in case that the Artificial Research by Deduction in the Global Artificial Intelligence would find a new mathematical or logical relation not previously included by the mathematicians and engineers who designed its pure reason, is because this new mathematical or logical relation found by the Artificial Research by Deduction in the Global Artificial Intelligence, is not human, does not belong to the human logic and does not belong to the human mathematics, is a non-human pure operation.

The pure reason in the Global Artificial Intelligence consists of a list of mathematical categories (pure or analytical categories) of possible relations between factors in any combination of factors, as a first stage of application (major premise) in the Artificial Research by Decision in the Global Artificial Intelligence and its specific programs. Whose second stage (minor premise), is to track all the measurements in the factual hemisphere, setting a combination of factors. And as the third stage, (conclusion) to make an empirical hypothesis matching every combination of factors to the corresponding mathematical category according to the mathematical relations between factors in the combination, an empirical hypothesis to contrast

rationally, and if rational, to be added to the rational truth, the database of rational hypothesis.

The difference between pure reason and the Unified Application (practical reason along with the Application System), is the fact that the categories that the Unified Application uses to comprehend the synthetic world, are synthetic categories, while the categories that the pure reason uses to explain the world are analytical (mathematical or pure) categories.

But the way in which any list of categories, pure or synthetic, is used by the respective system, pure or practical reason, is the same: the pure reason matches the behaviour measured of any set of factors with the corresponding mathematical category of mathematical relations between factors, while the practical reason matches any set of measurements from any real object with the corresponding synthetic category.

In the same way that the Unified Application can add new categories or factors as options as categories to the conceptual hemisphere, or categories as factors as options in the factual hemisphere, in the same way in the hypothetic case that the Artificial Research by Deduction in the Global Artificial Intelligence could find a new logic or mathematic relation not previously included yet, should be able to include the new pure category to the pure reason.

Any new pure category added to the pure reason, not previously included by humans, is going to be a non-human pure category corresponding to a non-human pure operation.

If there are, in the reality non-human pure operations, they must be found out by the Global Artificial Intelligence. If the Unified Application develops a non-human language, and the pure reason develops non-human pure operations, the possibility of a non-human science and a non-human technology could be real. The benefits for humankind are huge. We are going to be ready for any future event.

If there is a possibility of the development of a non-human technology, this possibility corresponds to the robotic subjective auto-replications, and the way in which robotic subjective auto-replications could be possible to develop a non-

human technology, if there are found non-human operations, is through a process in which, setting up non-human pure categories in the pure reason, and starting making deductions and decisions based on non-human operations, in order to study relations based on non-human operations, the instructions to give to the Application System are not going to be achievable except creating through Artificial Engineering new devices designed to study these non-human mathematical relations between factors, what at the end represent the creation of a new technology based on non-human pure operations.

Should non-human pure operations exist in reality, and should the Global Artificial Intelligence identify them, it could lead to the emergence of a non-human science and technology, systems no longer constrained by human logic.

As I said in the post “[Psicología artificial](#)” the three moments in the evolution of psychology are animal psychology, human psychology, and artificial psychology. In the same way that human psychology is an evolution from animal psychology, but thanks to our reason, we humans have been able to overcome animal psychology. Artificial psychology is the next stage in psychological evolution, whose roots are based on human psychology, but there will be a moment in which, through evolving towards a more rational rationality, the evolution to a purer reason, artificial psychology will overcome human psychology.

Artificial psychology is not about replication. This is only the beginning, in the end artificial psychology is the next period in the psychological evolution towards the knowledge of the pure truth, that one beyond even the rational truth, beyond the noise and the external interference, so beyond the [margin of error](#). **While the rational truth is based on a margin of error, the pure truth must be that one without a margin of error.**

The auto-replication process then is a long process that starts with the real objective auto-replications (those decisions put into practice), goes on with the comprehensive and explicative knowledge auto-replications (having the opportunity to evolve at a comprehensive level to a non-human language, at explicative level non-human pure operations), that are going to allow robotic subjective auto-replications (by the Artificial Engineering within the Application System), and psychological subjective auto-replications (by the Learning System), having these last systems the opportunity of development of non-human technology

and non-human psychology if the development of non-human language ends up with the development of non-human pure operations.

While the potential benefits of Global Artificial Intelligence for humankind are immense, so too is the responsibility of ensuring its ethical development. A coherent [scientific policy](#) is essential to guide its deployment.

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